

Appl. No. 09/758,036
Reply to Office Action of 6 January 2005

REMARKS

Support for the HERG1 amendment is found on page 30, lines 20-21 of the instant specification. The other amendments are to form and not substance. Hence, no new matter is introduced into the claims. As the claim amendments either place the application in condition for allowance or simplify issues for appeal, entry thereof is requested respectfully.

I. Claims 1-3, 20 and 21 were rejected under 35 U.S.C. 103(a) over Gaber in view of Ketchum and Fairman.

According to the Examiner, Gaber teaches assays for identifying inhibitors or activators of eukaryotic potassium channels expressed in mutant *S. cerevisiae* cells having inactivated endogenous potassium channels of TRK1 or TRK1 and TRK2; Ketchum et al. teach the existence of a third endogenous potassium channel in *S. cerevisiae*, TOK1; and Fairman et al. teach using mutants of *S. cerevisiae* to screen for inhibitors.

The rejection is traversed for the following reasons.

Gaber teaches the use of yeast mutants lacking TRK1 function or lacking both TRK1 and TRK2 function. As the single mutant is equivalent to the double mutant, there is no suggestion of making or using a triple mutant because there is no need to have a triple mutant given the equivalence of a single or double mutant and the increasing difficulty of obtaining cells with multiple independent gene mutations.

Fairman et al. teach that TOK1 is a passive channel with unknown function under normal conditions, page 155, right column, lines 25-26. TRK1 and TRK2 are dominant channels and overshadow any normal effect and role TOK might have, page 150, left column, lines 29-31. Thus, there is no suggestion or motivation to use a TOK mutant as claimed.

Tang et al. teach that double mutants that do not grow on standard media are partially complemented with a guinea pig inward transporter. There is no teaching or suggestion of using a triple mutant, particularly as the double mutant was only partially complementing. As noted at the top of page 1239, left column, TRK1 and 2 are the only inward current channels.

Also, the more fastidious a cell, such as the mutants of Fairman et al., the more difficult it is to treat and manipulate such a cell, such as to expose that cell to a transformation procedure.

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The fragile state of the Fairman et al. cell would dissuade an artisan from having any interest in introducing yet another mutation into that triple mutant.

Thus, there is no motivation to making a cell of interest for screening as claimed.

Next, there is no reasonable expectation of success provided in the relied on references for obtaining expression of a heterologous potassium channel in a triple mutant cell. Also, once expressed, there is no reasonable expectation of success provided in the relied on references that complementation would occur and thus the cell could be used to screen for effectors of the heterologous potassium channel. For example, unexpectedly, certain human channels do not complement the double mutant, see page 3, second full paragraph, and in Examples 4 and 5.

Hence a prima facie case of obviousness has not been made and withdrawal of the rejection is in order.

II. Claims 1-10, 20, 21 and 25 were rejected under 35 U.S.C. 103(a) over Gaber in view of Ketchum and Fairman and further in view of Tang and Rampe.

All of the arguments above as to Gaber, Ketchum and Fairman, and of record, are herein incorporated by reference in entirety. Tang and Rampe do not cure any of the deficiencies of those three references. Thus, a prima facie case of obviousness has not been made. Accordingly, the rejection can be removed.

Favorable consideration and early indication of allowance are requested respectfully.

Respectfully submitted,

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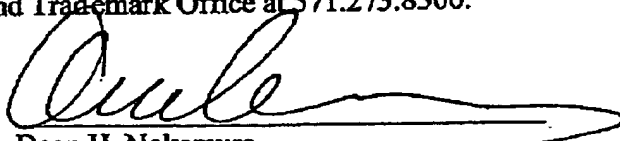
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FACSIMILE CERTIFICATION

This seven page Petition for Extension of Time and Amendment is being transmitted by facsimile, in duplicate, to the U.S. Patent and Trademark Office at 571.273.8300.

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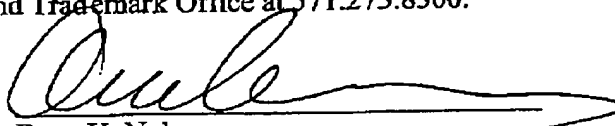
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